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Iowa conservationist

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COVER photograph by Dick Casady.

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Tree Cavities — Home-Sweet-Home to Many

by Ken Varland
WILDLIFE MANAGEMENT BIOLOGIST

"SAY, JOHN, I just got a new fireplace. May I cut up that old, dead oak standing in the timber's edge next to your lane? I could use the wood."

"Sure Ted, it's really not good for anything except maybe woodpeckers. Besides, I think it's an eyesore!"

Conversations like this are occurring more frequently these days as growing numbers of people purchase fireplaces and wood-burning stoves for their homes. As energy costs continue to skyrocket, it has become more appealing for people to use wood as an alternate source of heat. Wood from dead or dying trees can provide a source of good firewood, but is it really not much good for anything else?

As usual, nature has its own way of taking care of itself; in this case the dead has its own way of providing for the living.

Dead or dying trees (often called snags), trees with dead or broken limbs, and hollow living trees can have tremendous value to many species of wildlife and for those of us who appreciate all aspects of our natural world. They can add their own kind of rugged, diverse character to the timbered landscape. Some species of wildlife depend heavily on decaying trees for their very survival and if we remove too many of these trees from our forests and woodlots, we would see dramatic population declines of these species.

Dead or damaged trees usually have cavities or holes which many wildlife species use as den sites. These cavities are usually created by the animals themselves such as holes "pecked-out" by woodpeckers or those created by the natural decaying process such as the rotting away of an injured limb. Good cavity forming trees include maple, oak, hickory, ash, elm, basswood, aspen, birch, and pine. Cavity users are often blamed for reducing the economic value of a forest by their excavation activities in trees marked for harvest. This criticism is largely unwarranted, however, as woodpeckers, etc. usually make cavities in trees that have been previously damaged by disease, insects, storm, or fire.

Just how important are these trees to our wildlife? Several mammals utilize tree cavities as den sites including opposums, raccoons, squirrels, gray fox, and various species of bats. The U.S. Forest Service lists 28 cavity nesting bird species using the oak-hickory forest association in neighboring Missouri (Hardin and Evans 1977). The oak-hickory association is the same type that makes up the major portion of Iowa's forest lands. It is interesting to note that all sizes of birds use tree cavities. They range in size from the turkey vulture with its 70 inch wingspan to the black-capped chickadee with only a 4½ inch wingspan.

Most of us know that woodpeckers excavate their own cavities by pecking with their beaks. Each species uses trees in its own particular way. Red-headed woodpeckers usually create a cavity in the trunk of a dead tree near the timber's edge or in a forest opening while red-bellied woodpeckers prefer their cavities in dead limbs of live trees in mature stands. Common flickers nest close to the top of dead stubs in open country or only lightly wooded areas often excavating cavities in the same tree year after year. Flickers often feed on the ground in open habitats. Downy woodpeckers have similar nesting preferences to flickers except they select open timber with a dense understory of young saplings and brush in which to feed on insects. Hairy woodpeckers occur most commonly in open woodlands and excavate cavities in live trees which have rotten centers. Pileated woodpeckers, Iowa's largest and rarest woodpecker, require large tracts of mixed woodlands and favor large, dead trees with bone-like surfaces and few limbs.

The cavities created by these birds not only serve as living quarters for themselves, but later are used by a variety of other small birds including the tree swallow, great crested flycatcher, house wren, purple martin, screech owl, and American kestrel (sparrow hawk).

Other species prefer natural cavities usually found in rotting limbs or trunks. Turkey vultures, common in the state's

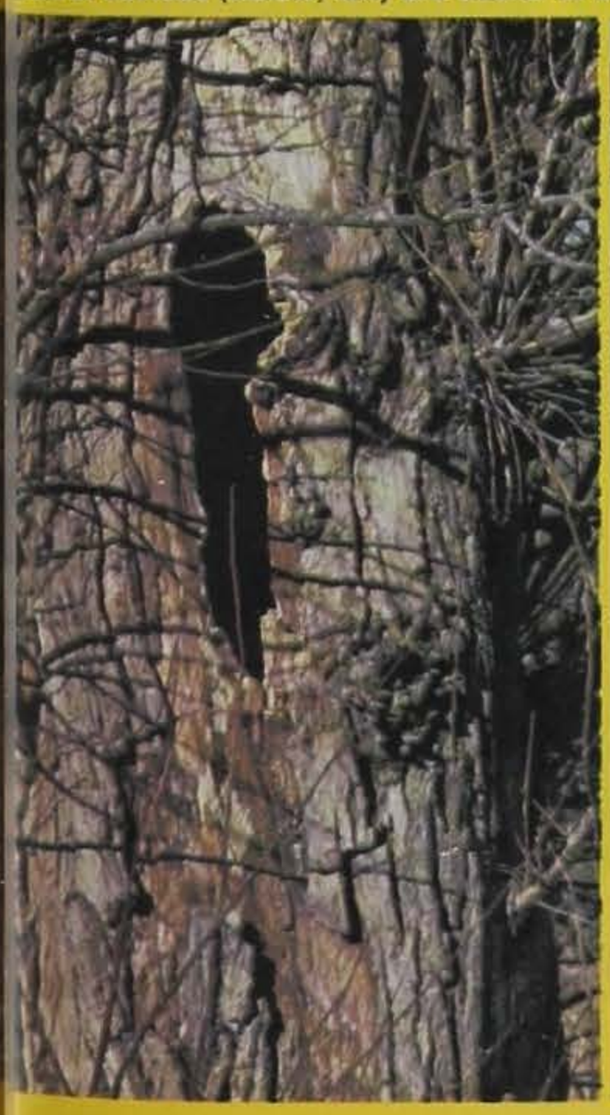
jor timbered areas, frequently nest ar the ground in hollow trees or wned logs. These scavengers will urn to the same nesting site year after ar. White-breasted nuthatches prefer ural cavities and will compete fiercely h squirrels for nest cavities. Black-oped chickadees will nest in artificial st boxes if allowed to do some cavating on their own. Boxes should partially filled with peat and sawdust as to entice the birds to use them. e eastern bluebird prefers to nest in tural cavities in savanna-like habitat nsisting of pasture areas with attered small trees and bushes usually ated near bodies of water. Bluebird pulations are low throughout most of ir range because of a shortage of ceptable nesting sites and because of mpetition from other, more aggressive ds. Bluebirds will readily nest in ificial houses if placed in suitable ations. Another bird that accepts ificial nest boxes is the wood duck, va's most colorful and abundant sting waterfowl species. This orn-eating duck has its highest nesting nsities along our major timbered river rridors but they will readily nest near ooded ponds and lakes. Other species at use natural tree cavities include the ted titmouse, barred owl, and barn l. Dead snags are used by birds other ways such as perches and osting sites.

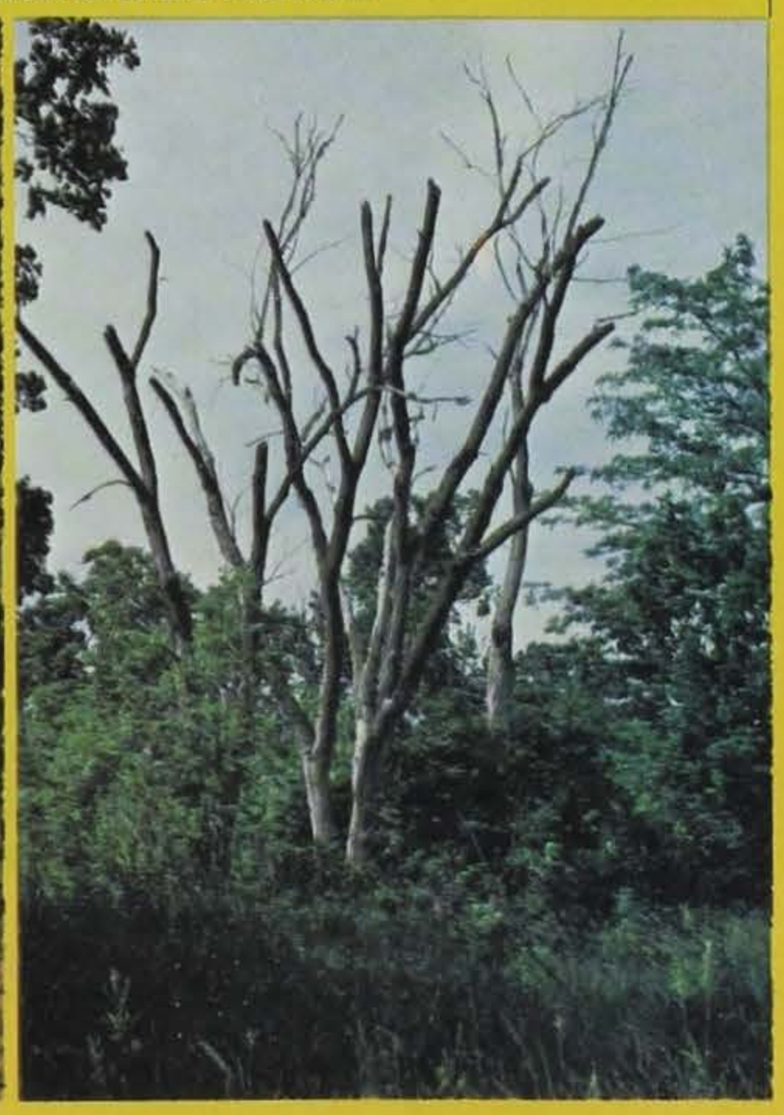
Just how important are the above ds to us? Many are insectivorous or sect-eaters. They keep potentially rmful insect populations in balance. ermanent residents like woodpeckers, nuthatches, and chickadees are especially important because they exert constant pressure upon insect populations, even in winter. Wood-boring larval forms frequently fall prey to the sharp, efficient beaks of these predators. If too many of these cavity users' nest sites are removed, their populations decline, thus leaving the way open for economically damaging insect infestations; damage which not only affects our wood-producing and soil-conserving forests, but also our farm groves, fruit trees, and ornamentals.

It is difficult to say how many cavity trees should be left per unit area in order to be adequate for all wildlife concerned. Although much more research is needed, experts currently estimate that from five to seven dead snags per acre should remain in the timber. This is in addition to trees with dead or dying limbs and living trees with hollow trunks. This number may seem high, but it must be remembered that there are several species which require tree cavities and some maintain territories (i.e. 1½ acres for house wrens, 4 acres for black-capped chickadees). Fallen snags should also be left as they provide homes for many small mammals and add nutrients to the soil through the decaying process.

If you have a fireplace or wood-burning stove, keep in mind that dead snags play a unique role in our woodlands and are vitally important to many wildlife species. Please do not remove too many snags from any one area. Remember, some humans may think they are an eyesore, but to the animals they are "Home Sweet Home". □

ead snags like the one shown below provide homes for a wide range of wildlife species. atural cavities (below, left) are useful to both birds and mammals.





Cover Story

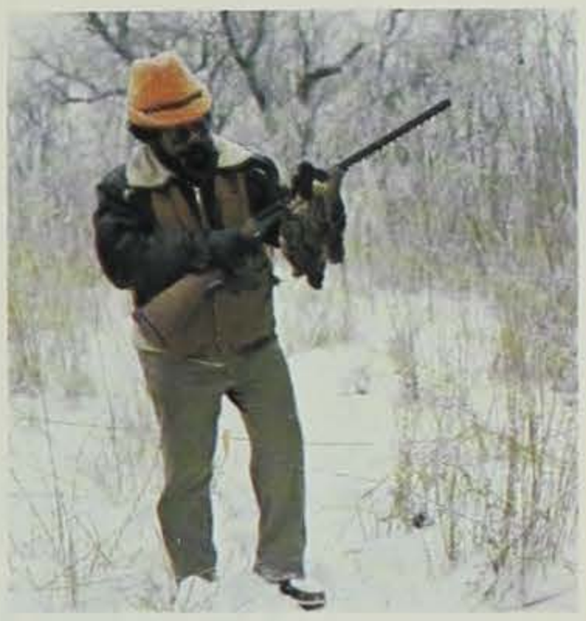


Photo by Dick Casady

Shorter Quail Season

January 6 marks the end of the quail season in Iowa this year. Normally, quail seasons run through the entire month of January offering quality, late season hunting for ardent sportsmen. However, the Commission adopted a shorter season following the winter of '78-'79, one of the worst in history.

Although this alternative was popular with nearly everyone, the shorter season will not substantially benefit the birds. The bobwhite quail is native to Iowa and has survived many rough winters in the past. While many birds die each winter, some are left to breed in the spring, and the species continues to thrive.

Hunting accounts for only a part of the total annual mortality and its toll is said to be compensatory; that is, it does not add to the number of birds that would die anyway. The last severe loss of quail occurred in the early sixties. The birds bounced back to a healthy level in just three years, despite continued long hunting seasons.

Still, setting a shorter season following a bad winter may have been a positive step. It should draw attention to the fact that winter mortality, not hunting, is the major cause of fluctuating quail populations.

Iowa Fish Hatcheries Working for Anglers

by Terry Jennings
SUPERVISOR FISH HATCHERIES

Photos by Ron Johnson

EVERY ANGLER reading this article has thrilled to the excitement of hooking a fighting fish. Usually this thrill is repeated many times each fishing trip. I'll bet few of you have thought of the possibility that the fish you caught was either hatched at one of Iowa's fish hatcheries or is the offspring of hatchery reared fish.

Most of us take good fishing for granted without stopping to realize that in many instances good fishing is a product of management manipulation rather than a natural occurrence. In 1972, the Fisheries Section of the Iowa Conservation Commission was reorganized so that each branch — including fish hatcheries — could become more specialized and better manipulate waters now for you for better fishing. Specialization has enabled hatchery managers to concentrate on learning the fine points of fish culture so that fish production requests can more often be filled. It is important to you, the angler, that all fish production requests be filled because the availability of fish could determine whether the water you fish will provide good fishing or not.

A program to modernize and streamline Iowa fish hatcheries has been undertaken to increase fish production capabilities and enable hatcheries to more often meet production requirements. The specialization and modernization program has resulted in a hatchery system that is dependable and efficient.

1978 Fish Production

Fis production from Iowa hatcheries during 1978 is detailed the ollowing table:

CO	WATER SPECIES	NUMBER	WEIGHT (LBS.)
	Ra ow Trout	224,751	100,016
	All o Rainbow Trout	7,070	3,455
	Br n Trout	54,359	25,117
	Br : Trout	3,049	1,655
WA	1 WATER SPECIES		
	Bl ill	1,931,100	1,136
	Ch nel Catfish	1,085,223	27,451
	La mouth Bass	1,554,000	unknown
	La mouth Bass	1,005,750	1,437
	La mouth Bass	61,288	2,777
	M ellunge	6,043	674
	Ne ern Pike	7,400,000	unknown
	Ne ern Pike	35,661	154
	Sn mouth Bass	12,375	23
	Ty Musky	9,366	246
	W :ye	109,621,920	unknown
	W :ye	77,496	4,325
	W : Amur	2,208	1,987

Th Fisheries Section has negotiated trades involving our nt species in exchange for fish we would like to release in wa These trades include:

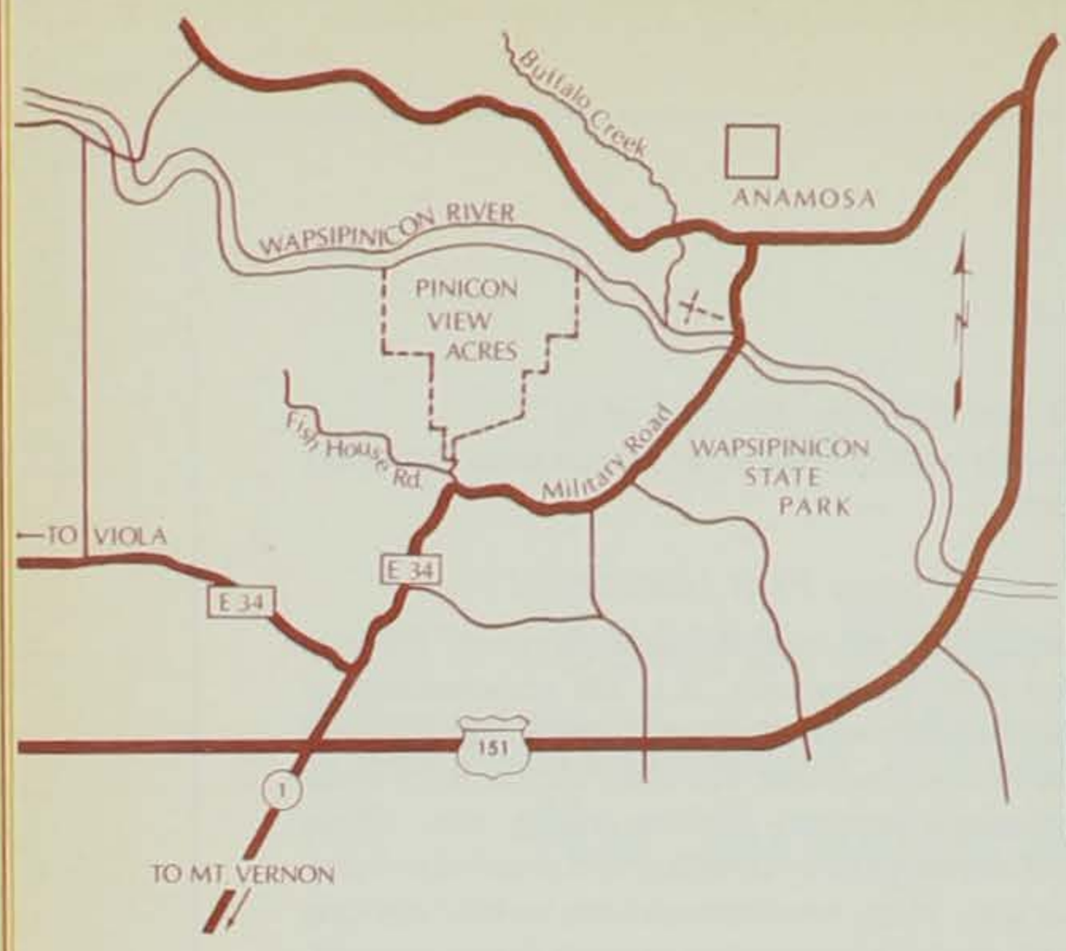
Fi hundred thousand northern pike eggs to Virginia for 500,000 striped bass that were delivered in 1977.

One and one-half million walleye fry to Arkansas for 4,000 6-inch grass carp.

Goal of Iowa Fish Hatcheries

Iowa's fish hatcheries are operated as a service to fisheries management and fisheries research. It is the responsibility of these biologists, after thorough study of scientifically collected data, to recommend a program that will make each body of water in the district a productive and exciting fishing area. These recommendations can range from complete fish removal to maintaining the status quo. Many recommendations include stocking fish. Although fish stocking is important in many fishery management programs, it is not a cure-all and will not create good fishing if habitat is lacking or unsuitable. If the biologist believes stocking can help fulfill project goals, he specifies where, when, how many, what size, and what species of fish are needed. It is the hatchery's responsibility and goal to produce and distribute the fish and to provide fish that are healthy and in good body condition. Thus, fish are stocked that have the best possible chance of surviving and growing large enough for an angler to catch.

The next time you go fishing please remember that not only have hatchery personnel dedicated their profession to making your fishing trip successful; but, all 76 employees of the Fisheries Section are dedicated to providing you with fishing pleasure. □



Site of original hatchery is beyond nearest tree.

Iowa's first fish hatchery built in 1874

by Walt Carstens

(from the Monticello Express)

Iowa's first fish hatchery, built in 1874 by Iowa's first board of fish commissioners, was located 2½ miles southwest of Anamosa on land presently owned by Dick and Edie Alman.

Iowa's first fish law was passed by the 15th general assembly and was entitled an "Act to Provide for Fish Commissioners for the Protection and Propagation of Fish".

The governor, under the provision of this act, appointed S. B. Evans of Ottumwa, B. F. Shaw of Anamosa and Charles A. Haines of Waterloo as members of the first board of fish commissioners.

This board, meeting at Des Moines on May 10, 1874, elected Evans, president; Shaw, secretary and superintendent, and Haines, treasurer. These officers divided the state into three sections, each to superintend a division.

"Hatching House"

This arrangement continued for two years until new legislation required only one full-time statewide superintendent and a board of commissioners. B. W. Shaw was appointed to this post, becoming Iowa's first fish commissioner.

Under a resolution of the board, Superintendent Shaw was authorized to build a "State Hatching House", and as far as practicable to procure spawn of fish adapted to Iowa.

In accordance with this authorization, Shaw during the summer of 1874 erected the fish hatchery on a 20-acre tract of land purchased from Col. W. T. Shaw for $360. Located southwest of Anamosa in hilly terrain, the site of the hatchery was in a ravine near a large spring.

The building, a 20x40-foot wooden structure on a stone foundation 3½ feet deep, was two stories high. The ground floor with 11-foot ceilings contained the hatching equipment, and the upper apartment, an 8½-foot story, furnished living quarters for the plant superintendent.

The building was constructed with the direct intention of maintaining as even a temperature as possible throughout the year. The interval between the exterior and interior walls was filled with sawdust from sills to roof. Ceiling of the hatching room was sealed and insulated with shiplapping.

Rows of Troughs

Nine rows of zinc-lined hatching troughs, 16 feet long, 1 foot wide and 4 inches deep, were firmly fixed on solid benches about 1½ feet from the ground. There were 2 sections of these tanks, with the 2nd section 6 inches lower, thus giving a break in the flow which resulted in better aeration of the water.

A bed of clean gravel was laid on the bottom of the troughs. The gravel was obtained from the nearby Wapsipinicon River, and after being sifted several times, was boiled and washed before spawn was deposited for hatching.

The spring that supplied the water running through the troughs was 5 feet deep and 10 feet in diameter and was located in one end of the building.

Hatching activities were carried on during the winter months, beginning in November and ending in March. Distribution of the fish took place when they were 6 to 15 weeks old.

Cooked Food

The fish were fed nothing but cooked food, consisting principally of liver and lungs procured from local slaughterhouses. A cookhouse, 14x16 feet and one story high, had been erected. The food was cooked by steam and chopped to varying degrees of fineness, according to size of the fish to be fed.

Besides the hatching building and cookhouse, various other buildings were erected including a barn and machine shed, a residence or two, and a storage basement. Two apple trees on the site, estimated to be more than 80 years old, still bear fruit, although of inferior quality.

Cookhouse, showing part of the cooking troug

Photos by R. K. Alman

During the first year of operation (1874-1875), the hatchery records showed the following distribution of fish within the state: 100,000 shad, 300,000 California salmon, 10,000 bass, 80,000 Penobscot salmon, 5,000 landlocked salmon, and 20,000 other kinds.

The second year showed the following distribution: 1,574,200 native fish, 533,000 salmon and lake trout, 100,000 shad, 125,000 white fish, 100,000 eels, 80,000 Penobscot salmon, 5,000 landlocked salmon. The following years the totals were somewhat less, but 150,000 brook trout had been added to the hatch. During the years 1878 and 1879, more than 5 million fish were distributed in inland waters as well as the Mississippi.

According to reports the hatchery was discontinued shortly after 1900, and may have been moved to Manchester.

Two reasons were sited: The general assembly recommended removal to another location since Anamosa already had one state institution, the state reformatory. The other reason was that the water from the spring was too cold.

The Almans welcome interested persons to visit this site but prior contact is appreciated. Write or call Pinicon View Acres, RR 2, Anamosa (319) 462-4528. □

Warden's diary

By Rex Emerson
LAW ENFORCEMENT SUPERVISOR

MOST OF THE SONGBIRDS have gone south for the winter, but some spend the winter here in Iowa. Almost everyone enjoys seeing wildlife, but there is something a little special in the wintertime about seeing the bright red flash of a cardinal or hearing a blue jay scolding intruders. It may be the contrasting colors against the otherwise drab winter scenery. Even one of the many kinds of sparrows is a welcome sight on a bleak January day, and they are not especially showy birds.

One day we watched a blue jay in our yard dig a hole in the ground with its beak, and then drop in an acorn. It carefully covered up the acorn, and even picked up a leaf and placed over it. It was either storing food or planting a tree!

At the first hint of fall, the robins began to flock up, preparing for their migration south, with as many as two dozen in our yard at one time. Our bird bath had a real workout clear through October, with sometimes three or four birds splashing there at once, in contrast to the summer months when it was usually a one-at-a-time routine. After a quick bath and a little rest, they would take off again, continuing on their trip to the "sunny" south.

Our martin house is now cleaned out and closed for the winter, as the purple martins also have headed south. We have had success in getting the martins to use our bird house only one year out of the ten years we have had it. Last year we smeared mud on the inside walls, and they moved in. My old friend who lives down by the river always has martins, and he had told me about the mud. He also said putting a little mirror on the back wall of each apartment would help, as they are a colony type bird and like to think there are other martins close by. We may have to try that next spring.

The bird feeders are up and being enjoyed by several species of our feathered friends. The birds would probably survive just as well if we didn't put feed out for them. The main purpose of a feeder is to attract our feathered friends in close enough to our homes so that we may enjoy them. Once you start feeding them, they expect it and no longer get out and scrounge for themselves. So it is important to continue the feeding all winter, once they become accustomed to a free meal. They many not be too much different from people in that respect.

In our back yard the cardinals, blue jays and chickadees enjoy the sunflower seeds, while the slate colored juncos and the sparrows clean up spilled seeds from the ground. The (Niger) thistle seed feeder is usually the busiest place early in the morning when as many as two dozen goldfinch try to feed at the same time. Sparrows like the regular wild bird seed, as do many other birds. Some people dislike feeding the sparrows, but they have to eat too and they make a great decoy to bring other birds in to the feeders. The suet bag gets worked over by the downy and hairy woodpeckers and nuthatches.

The Conservation Commission is interested in all wildlife including the non-game birds that visit our feeders during the winter. All birds, except the English house sparrow and the starling, have the protection of our laws. Some have partial protection, but most of them are completely protected. The Conservation Officer will work just as hard to protect the non-game bird as he will a game bird.

Fortunately most people would not think of harming a songbird, but we have all kinds of people. We received a call from a person in one of our smaller cities informing us that his neighbor was shooting songbirds. This was in a high class neighborhood and the yards were beautifully landscaped, with bushes and trees that would be attractive to birds. The person who called us had picked up thirty dead songbirds that the neighbor had shot with a rifle. There was a variety of species. I had to get the bird book out to identify some.

When we confronted the individual with the dead birds he was very arrogant and freely admitted, almost boasting, that he had shot them. As we made out a court citation he was saying something about being on his own place and could do what he wanted. Later, a city policeman told us the court would probably turn him loose. At least that was what usually happened when they wrote this person traffic tickets.

Well, the next day in court proved different. The defendant pleaded guilty. The judge said, *"There will be no fine on these charges. You are sentenced to one day in jail."* Then after a little pause, he continued *"That is, one day in jail for each of the thirty birds."*

The defendant turned as white as a snowy owl, then red as a cardinal, then gray as a junco. When the jail door slammed behind him I couldn't help but think how much better he looked in a cage than a bird does in a cage. The term "jail bird" seemed quite fitting in this case.

Unless youngsters get education and supervision from the parents, other songbirds will be killed by small boys and girls who received an air rifle for Christmas. It usually happens only once. The youngster picks up the lifeless little bird in his hand and wishes it were alive again. It's not food for the table and it certainly isn't any kind of a trophy. They will feel so badly about it they won't tell mom or dad, and every time they see a bird their conscience will start to hurt all over again.

Birds are nature's way of protecting us from an overabundance of irritating insects. Some insecticides upset this balance of nature when a bird eats a struggling, dying insect and the end result is a dead bird. The outlawing of some chemicals has saved several species of birds from becoming extinct. There is still room for improvement in the types of chemicals that some people use.

The 55 mile per hour speed limit has helped save many red-headed woodpeckers. They are slow in taking flight from the roads, and cars are one of their worst enemies.

If you have read this far it's because you like birds. You should send five dollars to the State Conservation Commission and ask for a Non-game Support Certificate. It's a beautiful picture you can frame and hang on the wall, and you will be paying for the protection and study of our feathered friends.

PRUNING BR(EAF

THERE ARE different reasons for pruning trees during different months of the year. Maples and birches tend to bleed profusely, so they are most often pruned in the summer when sap is moving more slowly. Summer pruning may also be popular because it is easier to visualize shade tree shape when leaves are present. It is also easier to tell which limbs are dead. August pruning can reduce crown water loss during periods of drought; it can also be used to "dwarf" a tree. Fall pruning is common when trees are transplanted. This is done to equalize the crown area with the root area that was removed during transplant digging. Because of wilt disease potential, do not prune oaks in the spring or early summer.

Tree leaves produce the food necessary for trunk and stem growth throughout the year. Fall leaf drop means that the tree must grow, survive, and begin new spring growth by using food produced last summer and stored in the stem, trunk, and roots. Removal of branches early in the dormant season reduces the amount of stem food storage area. By delaying pruning until late winter or early spring, you allow the plant to take full advantage of its stored food. Cutting in late February or March also has the advantage of being followed by rapid spring growth to heal the wound.

There are different reasons for pruning. Black walnut should be pruned to alter a limby, low value lumber tree into the high quality, high priced veneer tree. Trees are also pruned for aesthetic value, to remove insect or disease infested branches, to remove weak limbs or "V" crotches, or for safety reasons. Generally, trees should be pruned to maintain their natural shape.

Pruning techniques can vary considerably. Contrary to common belief, side pruning will not appreciably increase height growth. When side branches are removed too early, stem diameter growth is reduced. The branches and leaves are needed for active, healthy growth. Unless removing diseased or crooked branches, the side stems should not be cut off before they are about one inch in diameter. If small branches are exceptionally long, threatening to surpass the main leader, it may be better to cut them back without complete removal. Then completely remove them when they reach the one inch size. Removal of limbs over three inches thick will lead to exceptionally slow healing, and with walnut, will yield little value increase.

When cutting, it is important to make cuts flush with the main trunk. Leave no protruding stubs. If cutting one side of a "V" crotch, make the cut at a 45-degree angle. When cutting large limbs, make an initial cut on the underside of the branch, and cut the limb off outside the undercut. This will prevent bark peeling and ripping into the trunk. Finish the cut by removing the stub flush with the trunk.

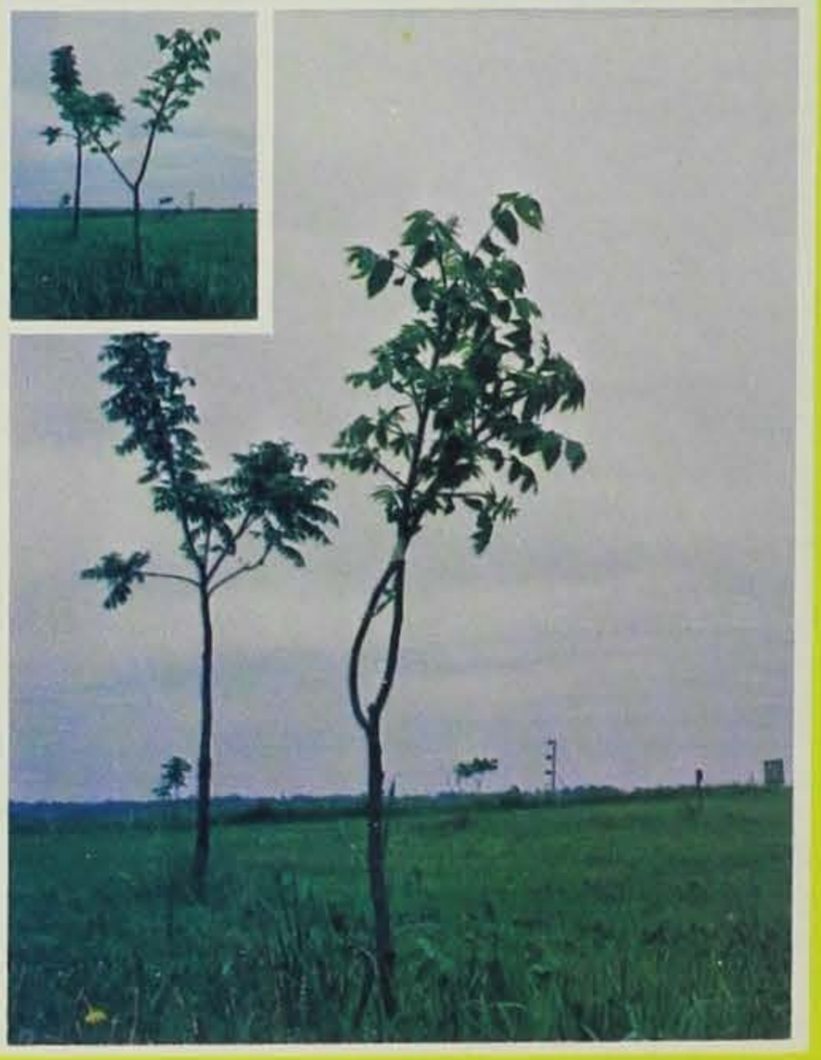
A pruning cut one inch in diameter will seldom need wound dressing (paint). Wounds this small should heal naturally long before wood rot sets in. Trees can also seal off large wounds. Often the tree wound dressing is of more cosmetic value to the tree owner than it is physical value to the tree. If you feel that tree paint is necessary, nearly any commercial paint is acceptable. □

Side branches should be removed when they reach a one inch diameter. Remove no more than one-third of the green crown in any one year.

Removal of … slow to he… little value …

Forked trees can sometimes be salvaged by heading one branch back and using it to hold the other branch vertical. Three or four wraps of masking tape can be used to secure the two together.

A young tre… forked top s… "coppiced"- … inch of the …



G BRLEAFED TREES

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Photos by the Author

Removal
little va

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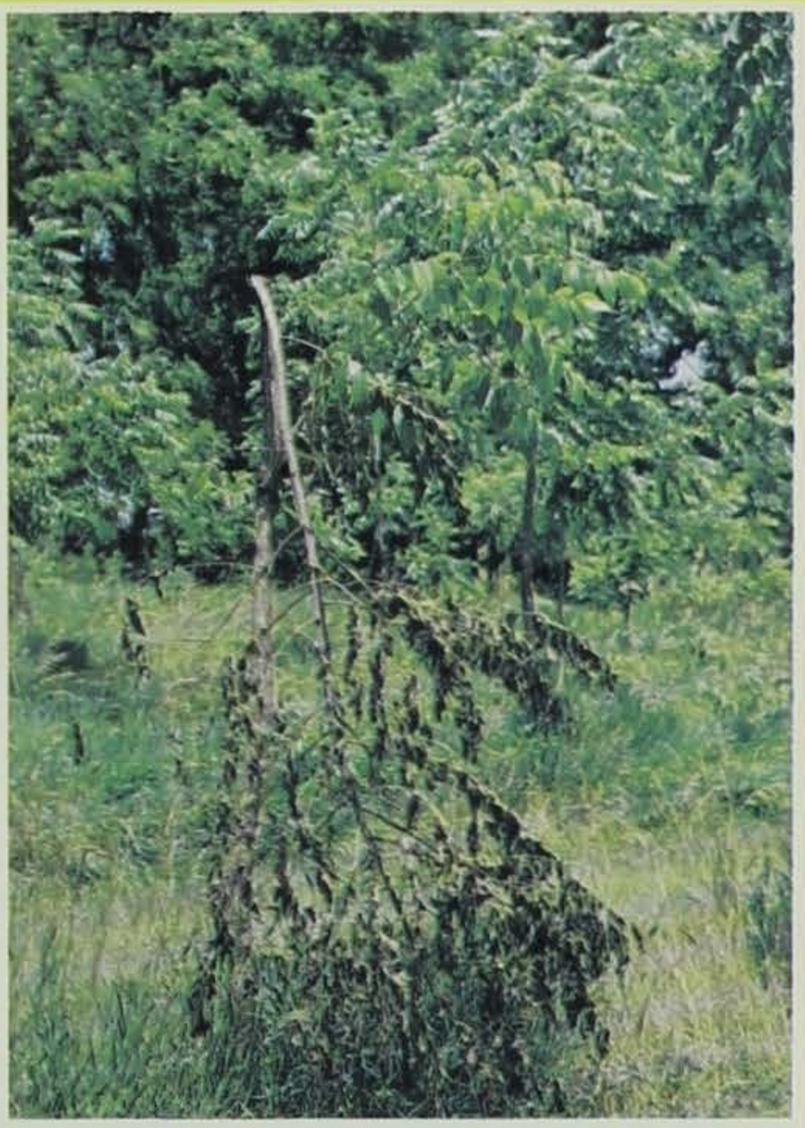
Pruning that is too severe results in sprouts and weak trees. Branches and leaves are necessary for normal diameter growth.



A young
"coppice

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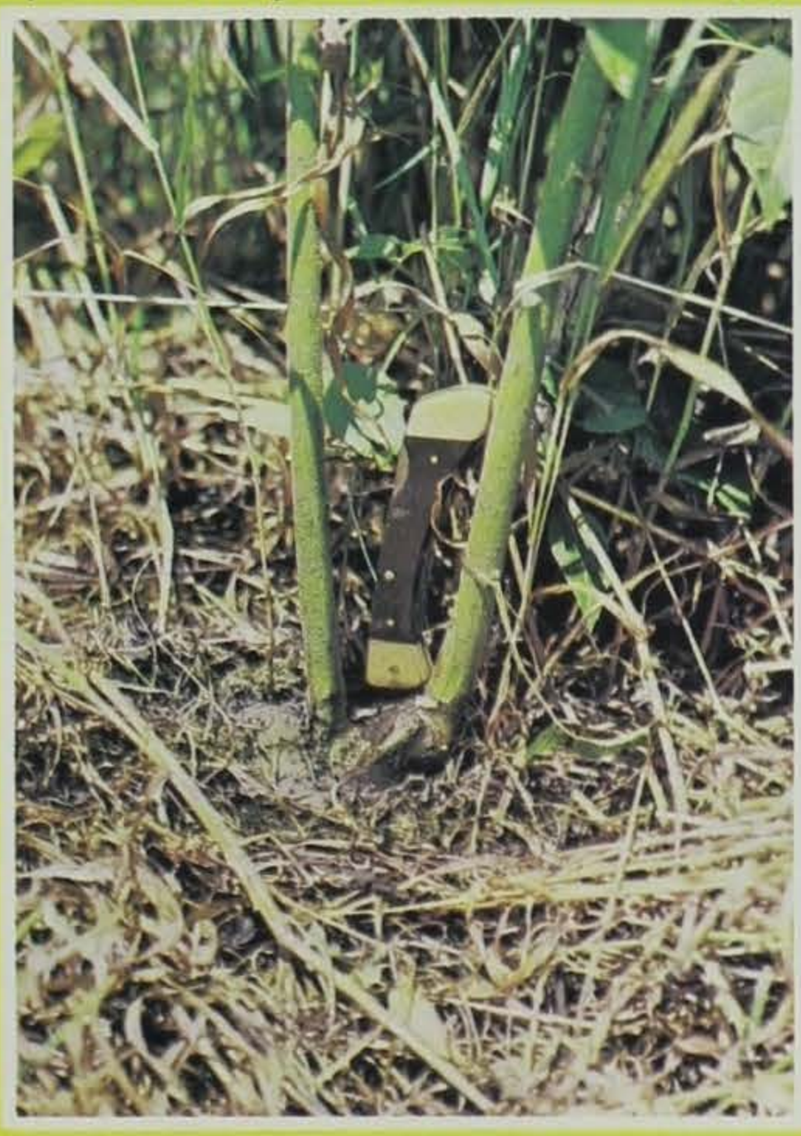
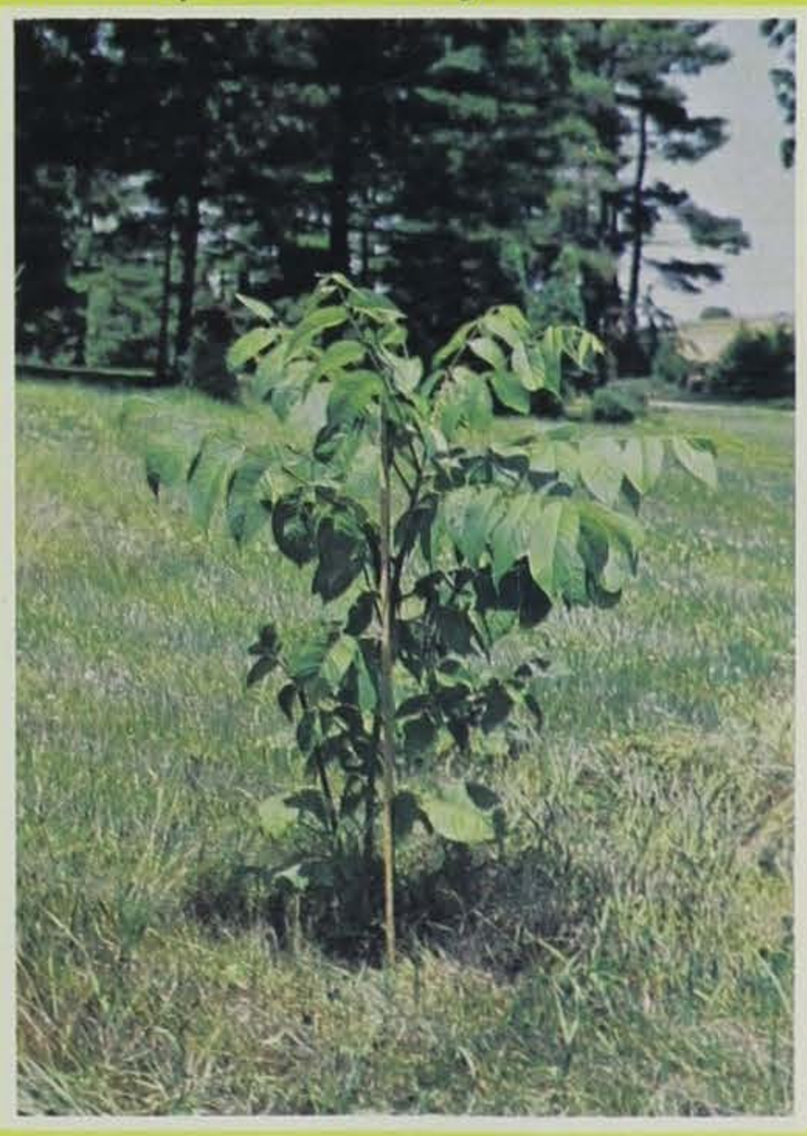
nch of the ground in April.

Several sprouts will develop from coppiced trees. Select sprout closest the ground and remove the others in July.



This walnut sprout grew three feet by July 1st. Coppiced trees are capable of five feet of growth in one season.



Better Care = Better Trophies

by Larry Ford

FISH AND GAME LAW ENFORCEMENT OFFICER

I had been under pressure from my boy, Larry Jr. (Scootch, as I call him) for several weeks to get his fish mounted. He had talked his grandfather and me into taking him fishing with us last spring and he made us all look like amateurs. He caught several fish between ten and fourteen pounds and insisted that I mount one for him. There is something about a seven year old boy's pleas that a father can't resist so I finally agreed to get the fish mounted. I have done taxidermy work for many years but being low on supplies and time, I decided to take the fish to Donny Bishop in Grand Junction, Iowa. Donny has done taxidermy work for several years but just recently decided to go to school and learn more about new methods. I must say that after seeing his work he must have paid attention in class. Scootch and I loaded up his fish and headed for Donny's Taxidermy. As we walked into Donny's shop, I could hear Donny mumbling something about *"Why don't people take better care of their trophies?" "What's the matter, Donny?"* I asked. *"Look at these fins and that tail,"* he replied. Sure enough, he had something to mumble about. The fins and tail on the northern pike he was skinning looked as though someone had taken an axe to them. There would be a lot of repair work done before the fish would once again look natural.

"Hi Scootch, did you bring that little northern of yours over to get mounted?" Donny asked, knowing he was going to get some sort of quick reply. *"That's O.K.,"* Scootch said, *"it's bigger than any you ever caught."* That put an end to that conversation. We quickly got back to the subject of how people should take care of their trophies.

The most important thing to remember when you are planning to have something mounted is to ensure that your animal, fish or bird is kept in the best possible condition until you can get it to the taxidermist. I will not attempt to go into great detail on trophy preservation but will give you some tips that will ensure you a better looking mount.

Fish

Any fish that is to be mounted should be photographed as soon as possible so the taxidermist can have a color reference. Fish vary a great deal in coloration depending on the habitat or water conditions from which they are taken. After a fish is mounted, it loses nearly all of its color and the taxidermist must repaint or tint the fish to make it look natural. Another thing that is important is making sure that the fins, tail and skin or scales do not get damaged. The best treatment is to immediately fold a piece of cardboard or heavy paper over the tail (this will help prevent damage after the fish is frozen), lay the fins flat against the fish's body and wrap the fish in plain paper or plastic and freeze flat. If the fish must be put on a stringer do not poke any holes in either the upper or lower jaws. Instead, run the stringer through the mouth and out the gills. The stringer should be tied off so that it does not tighten up like a slip knot. This could cause damage and will also kill the fish quicker. Do not put any more fish on the same stringer. They could rub against the trophy and cause damage. Another good way to protect and keep fish is to put them on ice in a cooler until they can be properly wrapped and frozen. Always freeze fish flat and do not place anything on top of them.

Fish of all sizes make attractive mounts. You do not necessarily have to catch a "lunker" to have a nice mount. Personally I would rather see a small bass surrounded by two or three bluegills and crappies hanging on a wall than a large bass or northern pike hanging alone. A "stringer mount" of assorted smaller fish is really an eye catcher.

Birds

Most game birds are mounted because of their beautiful plumage or because of some unusual coloration. Birds must be given special attention as feathers can easily be damaged. First plug the mouth and nostrils with cotton or some other soft material to keep blood and other body fluids from draining and getting on the feathers. If there are any large shot or bullet holes these should also be plugged. Some birds require immediate cleaning to remove blood stains. This can be done by *carefully* washing the stained areas with soap and cool water. Always remember to wash or rub in the direction the feathers lie. A soft cloth or sponge can be used. Some birds can be washed in the field since there is usually a creek, marsh or lake nearby. Plain cold water does a good job of removing blood stains. After cleaning, the feathers should be allowed to dry before freezing. After plugging the holes and cleaning the feathers, the bird should be carefully wrapped in plain paper or plastic and frozen flat.

Animals

An animal is one of the easiest critters to care for. As with birds, the mouth, nostrils and bullet or shot holes should be plugged with cotton or some other soft material. The animal should also be cleaned by the same method as birds if needed. The animal can now be wrapped in plain paper or plastic and frozen.

Most fish, birds and some animals have one side that is better than the other. Your taxidermist will always use the best side for the show side unless you specify you want your trophy facing one direction or the other. The condition of your trophy will sometimes dictate the position it should be mounted for best results. A bird with the wing feathers shot out, for example, would not make a good flying mount. Most taxidermists will tell you what position should be used.

Game Heads

Trophy game heads seemed to be doomed for destruction. The rst thing many hunters do after shooting a big game animal is to ake a mad dash to cut its throat. This is not necessary and it can ain or seriously damage the cape. There is no need to cut the roat as the animal has already bled out either internally or xternally through the slug or arrow hole. Any blood that is left in e animal will be removed by field dressing. If you intend to ount the head of your deer, antelope, elk, moose or whatever, ou need to take special precautions in field dressing and skin-ing. You should try and get the head of the animal uphill if ossible to keep any blood or body fluids from getting on the head r cape. After doing this, go ahead and field dress the animal in e normal manner with one exception. Do not cut any farther up e under side than between the front legs. The windpipe and any ther material can be removed after the animal has been caped ut. The animal should then be carried out of the field if possible prevent any damage that might be caused by dragging. If you ust drag the animal out, drag it head first. This is not only easier ut will not damage the cape if done carefully.

After getting the animal out of the field you can cape out the ead and neck. This is done by cutting down the back in a straight ne from the base of the skull to a point just between the front gs. Then cut down each side to the top center of each leg and ontinue carefully around the front of each leg and back to the end f the cut on the underside, making sure that you leave the brisket air intact. This will leave you enough hide for a full shoulder ount. You can now skin out the front of the shoulders and neck y carefully peeling and cutting the hide loose. Once you have orked the hide loose up to the head, you can go ahead and move the windpipe to prevent spoilage. If you have the animal here it is going to be processed, you should go ahead and sever e neck to remove the head and cape and take it to your taxidermist as soon as possible. The head and cape can be frozen but it is best to deliver it to the taxidermist immediately so he can finish skinning out the head. If you are hunting in some of the western states or Canada it is sometimes necessary to completely skin out the head. I will not attempt to explain this procedure but would suggest that you buy a book on skinning game heads or contact your taxidermist and have him explain the procedure to you. An easier solution would be to invite him to go hunting with you and save you the work!

Extra Time

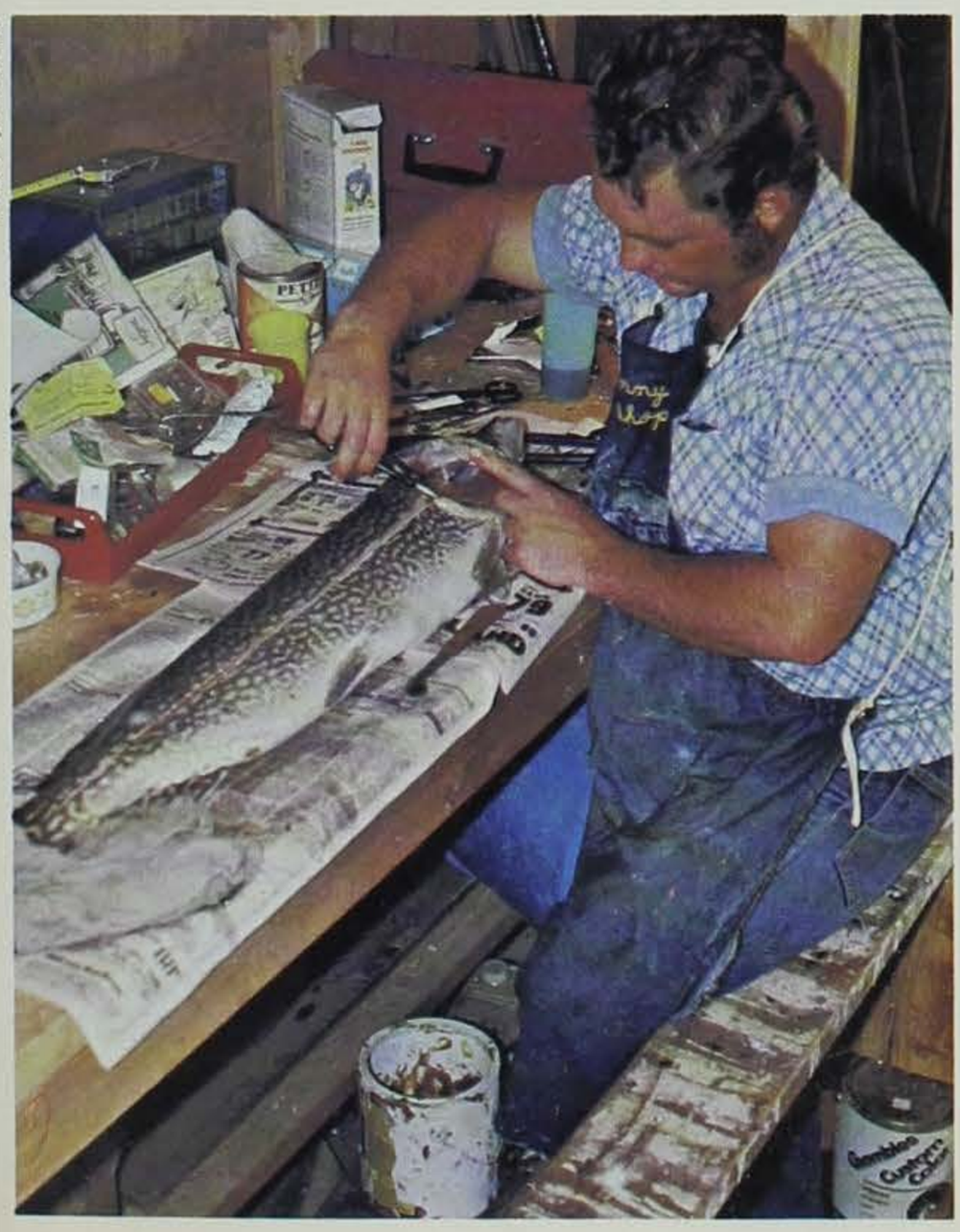
By taking a little extra time and care in protecting your specimens, you will not only save money in mounting costs but you will end up with a beautiful mount to enjoy for years.

Before leaving Donny's shop he invited us into his house to look at some of his work. As we walked in, I got a feeling something like Noah must have felt on the ark. There were birds, animals, fish, frogs, turtles, game heads and other critters everywhere. A raccoon was climbing a tree, a coyote was snarling from behind a table, a life size bear mount was in the middle of the dining room and a five foot bull snake was on the floor looking like he was trying to crawl under the rug. Donny was quick to point out the mounts that had to have a lot of repair work. I must say that I really had to look hard to see the damaged parts he pointed out. He had done an excellent job in repairing them.

As we were leaving, "Scootch" couldn't resist getting back at Donny one more time. Just as we walked out the door he turned to Donny and said, *"If you mess up my fish, I am going to come back and pounce on your bear!"*

We now have the fish hanging on the wall in "Scootch's" room and he is the envy of all his friends. The only problem I have now, is that he wants to go again next spring to catch a thirty pound musky. With his luck he probably will. □

Photos by the author



Cardboard protects fish tails.
Cotton prevents blood from staining feathers.

Classroom Corner

by Bob Rye

ADMINISTRATOR, CONSERVATION EDUCATION CENTER

MANY ANIMALS, unlike humans, rely on their keen sense of smell and their ability to produce specific scents to communicate with others. Humans use sounds and sights and they communicate with gestures and words.

Winter is when humans, who study our natural resources, cover up their ears and noses and use only their eyes. The human sense of smell ranks very low at any given time in producing an understanding of a stimulus. Their eyes can tell many things with just a single glance. The ears are continually telling the brain about the environment. The nose and the sense of smell only react to occasional strong stimulus or when specific emphasis is placed on scents.

Scent tracking is done by many animals. Trained blood hounds can even distinguish between the odors of different people. They and other types of dogs have been used by police for centuries and are still being used today. In many cases dogs and their sense of smell are used to detect other things such as illegal drugs.

Many hunters use scent tracking in their search of coyotes, game birds, foxes, raccoons, squirrels or rabbits. It is a frequent occurrence to find a person out listening and observing a dog as it works at scent tracking.

Winter is a time when we, who have noses at least a million times less sensitive than a dog, can experiment on how animals understand the messages received by their nose. We can see evidence in the snow and can tell where to smell.

For the experimental activity, we establish the fact that animals leave "odor signatures" everywhere they go. An animal's odor stays on everything that the animal touches long after the animal has gone. Urine and feces are concentrated sources of scents that tell information about size, age, condition and sex of an animal. Some animals use scents for defense and marking territories. Animals also use scents to locate food, track prey, find mates, detect predators and keep track of young.

Our activity starts by dividing the group into teams of four. The teams are supplied with plastic sprayers which contain one diluted liquid flavoring extract. The extract may be peppermint, coconut, almond or other "smelly" liquid. Yellow food coloring is added. The coloring is added to assist the humans in locating where to smell.

Next one member of each team is selected to be the prey. This person takes the sprayer. The area, snow covered and about 100 meters on a side, is delineated. The prey line up on a starting line. They spray a cupful of snow, which has been given to the predators, with their scent. The predators face the opposite direction as the prey travel through the area squirting a scent about every 10 paces. Since it is a small area the tracks of the prey should cross several times. This part will take about ten minutes and leave about 20 scents per team. The prey should end their trail in a concealed place.

The predators now enter the area. They take their scent cup along with them for reference. Each time a proper scent is found, the predators tag it with a flag of some kind. They must not disturb the scent spots and if they find a wrong scent they must go back to their last correct one and start again. When all the prey have been located they retrace their steps and collect the flags.

During a sharing time at the end of the activity, the students comment on the activity. These comments include — the ease or difficulty they had scent tracking in comparison to real animals, how "poor smellers" would survive and how their life would be different if they possessed a good sense of smell.

This is an activity in the Outdoor Biology Instructional Strategies series (OBIS). It is useful, not only as described, but also in explaining some of the activities of the Conservation Commission. The Commission is involved in the management of the natural resources of Iowa, including animals which can detect scents. This ability of the animal is used in research projects such as determining how many of a specific kind are in an area.

Take time now, and test your sense of smell. Search out some non-human tracks and scents and follow them. Try to determine what the animal was doing.

LOOKIN' BACK

in the files of the CONSERVATIONIST

Ten Years Ago

the Conservationist ran an article on walleye fishing. This story concentrated on winter open water fishing below the dams on the Mississippi River. In another feature there were two guys spearing carp through the ice. And you thought only duck hunters were crazy.

Twenty Years Ago

we ran a story on winter kills and their effect on fishing in Iowa. It was stated that in shallow lakes there is very little that can be done to prevent kills during winters of heavy and prolonged snowfall. An experiment is being conducted on Black Hawk Lake in Sac County in which an aerification system will be used.

Thirty Years Ago

the Conservationist was lamenting the fact that many southern Iowa farmers were bulldozing Osage orange hedges which were then considered ideal quail habitat. Wildlife biologists in the 1970's determined that the actual value of these hedges was overstated and that other types of cover are actually much better.

Construction was underway on Lake Darling near Brighton and it was noted that the continental population of whooping cranes was up to 36.

Ice Fishing the Upper Mississippi

by Gary L. Ackerman
FISHERY BIOLOGIST

A few years ago your Mississippi River ice fishing trip may have been briefly interrupted by a Fisheries employee asking a lot of questions. What he was doing was conducting a creel survey.

You may be wondering, *"just what is a creel survey?"* It is simply a technique used to evaluate the quality and condition of a sport fishery by looking at the end product — fish in the creel. It is similar to a physical examination a doctor may give a patient to find any problems that need correction, or to determine when healthy conditions exist.

The Iowa Conservation Commission conducted an ice fishing creel survey the winter of 1975-76 on the Upper Mississippi River, to determine the status of the fishery and to determine what problems, if any, are limiting the quality and quantity of this important fishery.

The creel survey was conducted from Clinton to the Minnesota border. In addition, several small areas were intensively surveyed to get complete creel data. Let us briefly look at two of these fisheries — Bussey Lake near Guttenberg and the Sny Magill Bottoms near McGregor.

Bussey Lake is a 213 acre area located adjacent to the navigation channel near Guttenberg. Average depth is three feet and the area is heavily vegetated with aquatic plants, primarily coontail. The ice fishery focuses in a ten acre bay near the west bank.

The creel survey determined that 1,063 anglers fished 3,479 hours in catching 4,844 fish. Total weight of fish caught during this 78 day fishing period was 1,568 pounds. The average fishing trip lasted 3.4 hours. Fishing pressure was 16.3 man-hours per acre. Fishing success was a fine 1.44 fish per hour.

This fishery is dominated by bluegill and crappie (Table 1). It is noteworthy that no northern pike were observed in the creel even though they are abundant in Pool 10.

The Sny Magill Area is comprised of several small ponds and two larger sloughs, Norwegian Slough at 174 acres and Methodist Slough at 100 acres. This area is located at the middle of Pool 10, six miles south of McGregor.

The average depths are four feet and both sloughs are densely vegetated with aquatic plants. Fishing occurs along submerged stump fields and submergent vegetation. Access is difficult because a running slough, causing potentially dangerous ice conditions, bisects the area and anglers must walk to this favored fishing spot.

The creel survey revealed that 1,440 anglers fished 5,509 hours and caught 9,998 fish. The total weight of fish creeled during this 80-day fishing period was 3,329 pounds. The average fishing trip lasted 4.1 hours. The fishing pressure exerted equalled 20.1 man-hours per acre. The catch was again dominated by bluegill and crappie. Fishing success was an exceptional 2.5 fish per hour. Harvest was 36.5 fish per acre, equalling 12.2 pounds per acre. The crappie fishing in this area is excellent as indicated by the catch records (Table 2). Again, no northern pike were observed in the creel.

Table 1. Harvest and species composition of the winter ice fishery of Bussey Lake, Pool 10, Mississippi River, 1975-76.

SPECIES	FISH IN THE CREEL	PERCENT OF CATCH BY NUMBER	AVERAGE WEIGHT IN POUNDS	TOTAL WEIGHT IN POUNDS
Bluegill	3,948	81.5	.30	1,184
Black crappie	678	14.0	.40	271
White crappie	19	0.4	.42	8
Largemouth bass	24	0.5	.71	17
Yellow perch	175	3.6	.50	88
Total	4,844			1,568

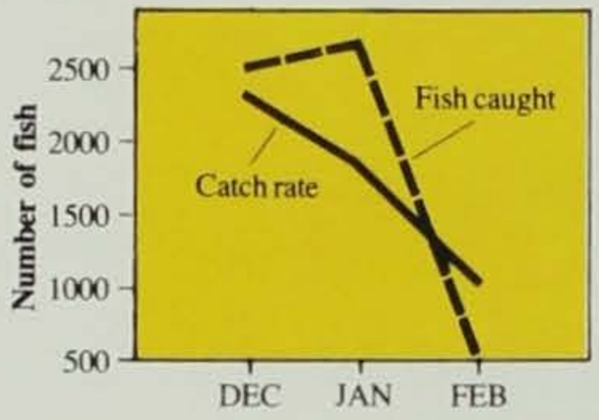
Table 2. Harvest and species composition of the winter ice fishery of the Sny Magill Area, Pool 10, Mississippi River, 1975-76.

SPECIES	FISH IN THE CREEL	PERCENT OF CATCH BY NUMBER	AVERAGE WEIGHT IN POUNDS	TOTAL WEIGHT IN POUNDS
Bluegill	7,098	71.0	.30	2,129
Black crappie	2,340	24.0	.40	936
White crappie	350	3.5	.40	140
Largemouth bass	120	1.0	.70	84
Yellow perch	80	0.6	.50	40
Warmouth	10	Trace		Trace
Total	9.998			3,329

What is the optimum time of the year for ice fishing in the River? Harvest and catch rates were plotted graphically by month (Figure 1). Both harvest and catch rates declined proportionately ›

as the ice fishing season progressed. Clearly the best fishing and the highest catch rates occurred during the first few weeks after freeze-up. The major harvest of panfish occurred through a 26-day period in December and then declined through the rest of the season. The reasons for this phenomenon are unknown but it has been speculated that ice fishermen are effectively reducing the quantities of panfish, particularly bluegill, which tend to concentrate in very specific areas in the winter. The average size of bluegill creeled decreased as the season progressed as, apparently, the fishermen became less selective for larger bluegill. In essence, the larger bluegill probably are being caught out of these selective habitats.

Figure 1. Seasonal variation in the catch from ice fishing, Mississippi River, 1975-76.



Bluegill are being heavily exploited by ice fishermen in these small, selective habitats but they are not being over-exploited. Considering the reproductive capabilities of bluegill and the immense size of the total riverine habitat of the Upper Mississippi River, over-exploitation of bluegill is not likely.

Is there a need to impose more restrictive regulations for the management of panfish on the Upper Mississippi River? The number of panfish creeled by each angler provides some insight into this question (Table 3).

Table 3. Daily angler panfish catch by ice fishermen on the Upper Mississippi River, 1975-76.

NUMBER OF FISH	PERCENT OF ANGLERS
0	24.4
1 — 10	56.9
10 — 25	13.5
25 — 50	4.9
50 — 100	0.3

The creel survey showed that only 5.2 percent of ice fishermen creel over 25 panfish in one fishing trip. Over 24 percent of ice fishermen catch no fish at all. It is important in any panfish fishery that anglers harvest a substantial portion of the population annually. Without this harvest panfish would quickly overpopulate to the point that not enough food would be available for good growth and the population would become "stunted", containing large numbers of small fish. It is for this reason that bag limits are not set on panfish species.

This creel survey revealed several facts. The panfish fishery is in a healthy condition. Fishing success ranged from good to excellent, although the best angling success occurred the first month after freeze-up. The average size of bluegill and crappie shows that the fishery is balanced and the panfish populations are not being over or underharvested. Although northern pike are abundant in the Mississippi River, ice fishermen are presently harvesting very few northerns.

The ice fishing season shall soon begin, so get your gear ready. It can be a minimal investment, for all you need is a couple of jigging rods, some small ice fishing jigs and a large plastic bucket to sit on to reap a maximum of fishing rewards — a mess of sassy bluegills or slab-sided crappies. And if you encounter someone doing a creel survey, cooperate, for you are helping yourself by helping us do our job in managing the fisheries resources of Iowa.

Nick Klepinge ildl

by Bob Mullen
STATE CONSERVATION OFFICER

THERE HAVE BEEN many articles written about wildlife artists and how life-like and how detailed their work is. Iowa is fortunate in having a wildlife artist whose work does not have to be expounded upon, for the quality of the work speaks for itself. Nick Klepinger is relatively new on the Iowa wildlife art scene but his work has the touch of an accomplished veteran. The artist himself and the variety of his media adds interest to his art.

In 1976 and 1978, Klepinger's watercolor paintings won the Iowa duck stamp competitions. Limited edition prints of the designs have been widely recognized as collector's prints. Working full time as an artist, Klepinger utilizes many other avenues of art. He designs and creates wildlife in wood. Using basswood and oil paints, he creates full bodied, scaled works of Iowa's native birds. Klepinger's bird carvings are best recognized for stopping birds in dramatic flight poses. *"A quail,"* he says, *"is at its finest when it's exploding into the sky . . . right in front of you".*

His unique handling of flat relief carvings, which Klepinger calls *"relief sculpting"*, creates an exciting new form of wildlife art. By exaggerating his undercutting technique, birds and animals appear to be suspended in the wood.

A recurring theme throughout Klepinger's art is the freedom and grace of the animals. *"If you study a healthy wild animal you can notice that all of its movements are spontaneous and usually well executed. It's this unrehearsed action that makes them so special to me,"* states Klepinger.

Klepinger is one of a very few Iowa artists doing bronze wildlife. He utilizes lost wax castings, a traditional European form of casting, which goes back many centuries. The wax creations are sent to a foundry which produces a limited number of bronze castings. These castings have a multiple appeal, because they can b appreciated from all angles. addition, bronze castings ar considered permanent art forms; while paintings are limited by the finite nature of paper.

Before becoming an artist Klepinger graduated from the University of Oregon in journalism, and worked as a radio-newsman. He has also worked as a cabinet maker and carpenter. After taking a water color course, Klepinge realized he had a definite ability in art, which he continued to develop. In 197 he became a total supportiv artist, making his livelihood from his art.

Klepinger is a very independent individual, he feels he can express this independence through his a His work is of his own experiences, and is done to satisfy himself, as opposed an artist for hire who works for others. He feels his art is more enjoyable and challenging since he makes his living from it. Klepinger would definitely be consider a hunter's artist. He takes moments of the hunt and captures them in artistic creations.

Klepinger feels his curren work is limited in appeal to just the Midwest, but he wo eventually like to work for more universal appeal. Klepinger and his wife, Lind own and operate "Klepinger Wildlife Art" in Newton. The his art work is available for viewing and purchase.

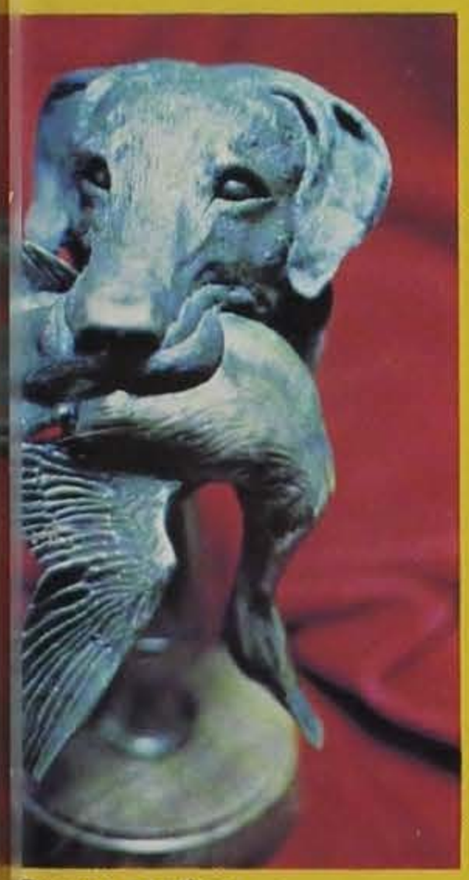
Bronze cast

1976 State D

ngwildlife Artist

Photos by Roger Sparks

Carved Canvasback.

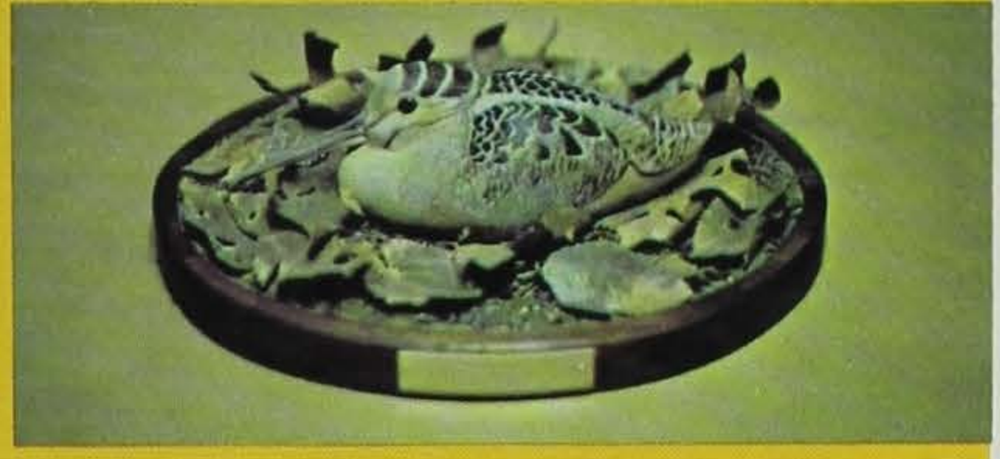


Bronze casting.

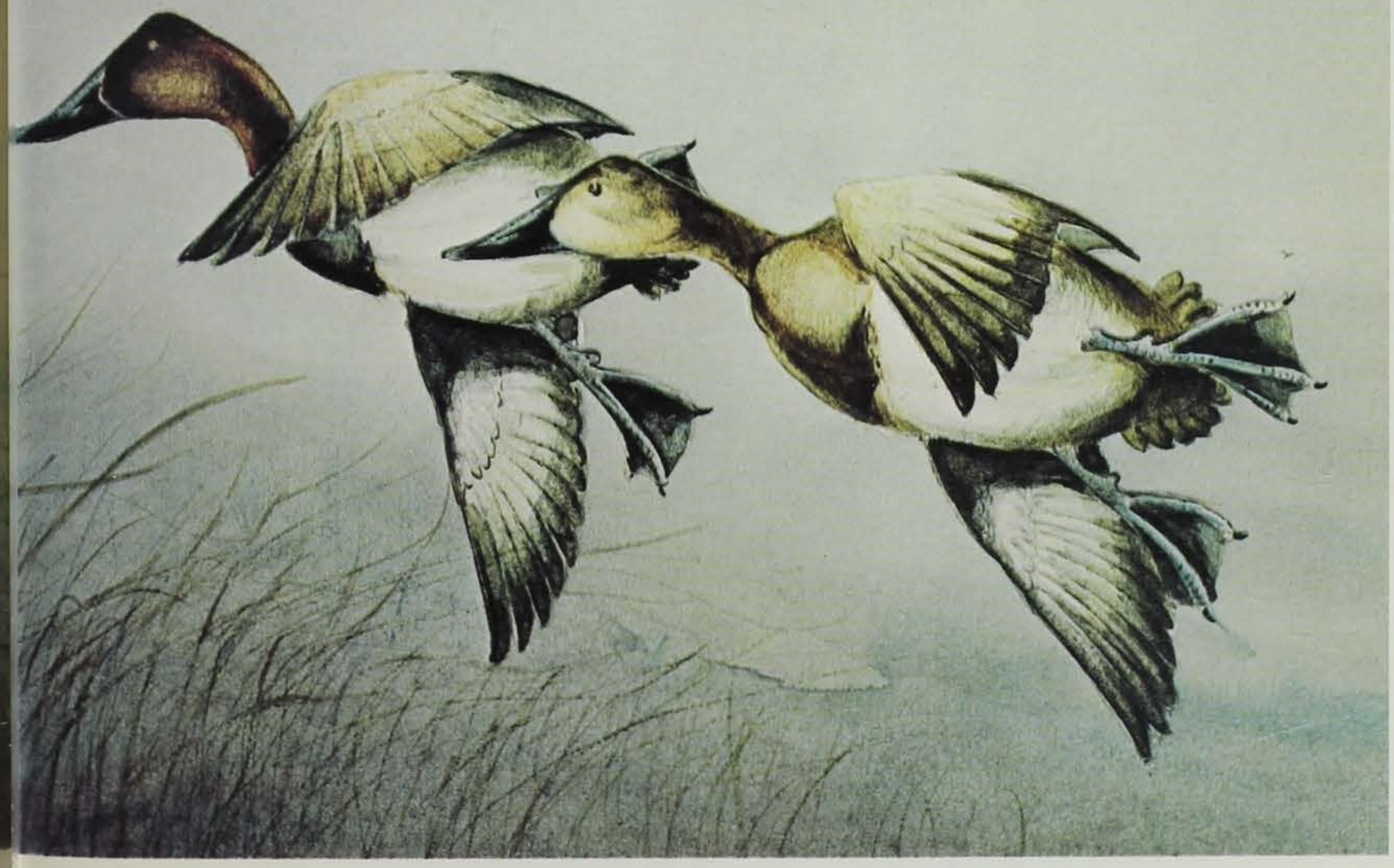
976 State Duck Stamp winner.

Mallard carving.

Relief carving.



Woodcock carving.



"Winter on the South Bear" by Ron Johnson